Molecular Structural Effects on The Mesomorphism of New Liquid Crystal Dimers

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Three kinds of bent-shaped liquid crystal dimesogenic compounds(1,3-bis (2-,3-,4-((4-alkyloxyphenylimino)methly)phenoxy)propan-2-ol) have been synthesized and investigated. The structures of the dimers are given in the below:

 S_n - ortho, -meta, -para (n = 5,7,9)

Sn-ortho and Sn-meta compounds linked at ortho- and meta- position of between mesogen and flexible spacer had a U-shaped structure, which have been unfavorable interaction between molecules. While Sn-para compounds linked at para-position of between mesogen and flexible spacer had a bent-shaped structure, which have been more favorable interaction between molecules than U-shaped molecules. Therefore Sn-para compounds have been showed a good liquid crystallinity.